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Working for Clean Water

An Information Program for Advisory Groups

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Multiple Use

What is multiple use?

What are the advantages of multiple use?

Where does multiple use fit into the planning process?

What funding is available for multiple use?

How can advisory groups help develop multiple use?

Citizen Handbook

EP 1.8/12:

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The Pennsylvania State University
Institute of State & Regional Affairs
Middletown, PA 17057

Dr. Charles A. Cole
Project Director
Dr. E. Drannon Buskirk, Jr.
Project Co-Director
Prof. Lorna Chr. Stoltzfus
Editor

This unit was prepared by
E. Drannon Buskirk, Jr.

Advisory Team for the Project
David Elkinton, State of West Virginia
Steve Frishman, private citizen
Michele Frome, private citizen
John Hammond, private citizen
Joan Jurancich, State of California
Richard Hetherington, EPA Region 10
Rosemary Henderson, EPA Region 6
George Hoessel, EPA Region 3
George Neiss, EPA Region 5
Ray Pfortner, EPA Region 2
Paul Pinault, EPA Region 1
Earlene Wilson, EPA Region 7
Dan Burrows, EPA Headquarters
Ben Gryctko, EPA Headquarters
Robert Hardaker, EPA Headquarters
Charles Kauffman, EPA Headquarters
Steve Maier, EPA Headquarters

EPA Project Officer
Barry H. Jordan
Office of Water Programs Operations

Acknowledgements
Typists:
Ann Kirsch, Jan Russ, Tess Startoni

Student Assistants:
Fran Costanzi, Kathy DeBatt, Mike Moulds, Terry Switzer

Illustrators:
Charles Speers and Martin McGann-Smith

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Multiple Use

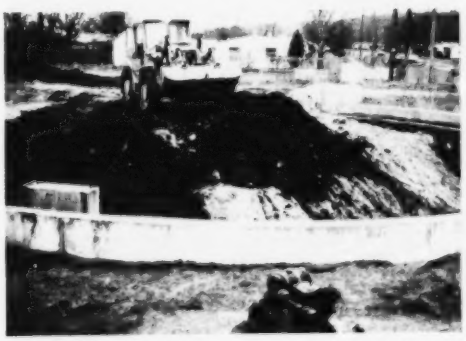
It doesn't make sense to some people. Spending millions of tax dollars to clean up wastewater is one thing. Spending these same funds on tour facilities, meeting rooms, and such matters, however minimal, is questionable. It is just another governmental boondoggle.

From another viewpoint it is foolish to miss opportunities. We must squeeze as many benefits as possible from public investments. Besides cleaning up wastewater, treatment facilities can provide recreation, open space, and resources such as environmental education. Rather than squander or divert water clean-up funds, multiple use of treatment facilities supports long-term water quality goals.

Adapting a wastewater treatment facility to other functions is called *multiple use*. It means extending a facility designed mainly for wastewater management to additional uses such as bike paths, ballfields, and greenways. It is not a multiple purpose project such as an incinerator, which from the outset is designed for burning both sludge and municipal refuse. Multiple purpose projects may be beneficial, but United States Environmental Protection Agency (EPA) Section 201 construction grants deal mainly with water pollution. The need for wastewater treatment facilities far exceeds available federal funds. Thus, these grants are limited to treatment works. On the other hand, *multiple use* developments that cost very little can achieve great benefits.

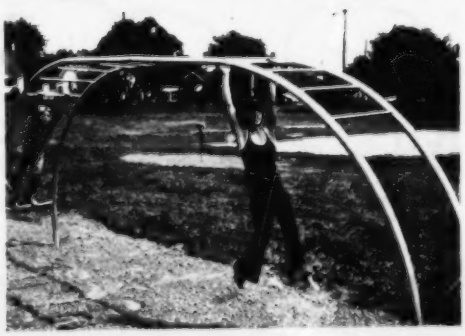
Why Multiple Use?

Without on-going public involvement, wastewater treatment plants at best are temporary solutions for pollution problems. Why? Such facilities left hidden behind chain link fences tend to break down from a lack of maintenance, or become overburdened from community growth. Unless these facilities are thrust into the mainstream of community life, most will fail. Multiple use is one way of dealing with the problems. Plants work better and stay cleaner when these facilities are used as community centers for multiple use activities. These persons become more aware of clean up efforts and situations that cause pollution. This knowledge builds support for water quality planning and decision making.



Conversion of an abandoned plant to a neighborhood park at Miamisburg, Ohio.

Before



After

Multiple use provides many benefits. For the taxpaper they can mean:

- More open space, recreation, and other resources for the tax dollar
- Greater public access to waterways
- Education on clean water
- Catalyst for interagency cooperation
- Protection of shorelines and water bodies from pollution
- Public involvement in water quality management planning and decision making.

For the grantee and treatment plant personnel multiple use projects can mean:

- Heightened awareness of water clean-up efforts
- Basis for on-going public support
- Opportunity for improved images
- Career education for plant operation
- Improved plant efficiency and management
- Support for operations budget.

If this vast array of opportunities exists, why don't more of the 13,000 wastewater treatment plants in the country take advantage of them? It is mainly a matter of public attitudes, facility designs, and policy conflicts.

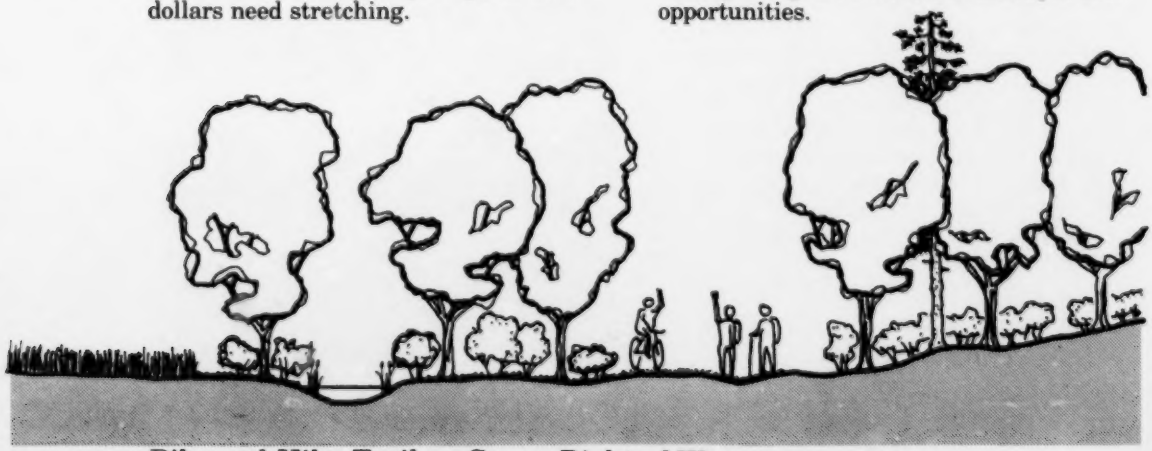
Slow Beginning

One reason that multiple use has been slow coming is that it is a new way of thinking, requires creativity, and involves more encompassing views and long-term perspectives. It is something that makes more sense as budgets get tighter and dollars need stretching.

The Clean Water Act of 1972 urged the consideration of multiple use opportunities in both facility and areawide planning. Because multiple use was encouraged rather than required, its implementation has lagged. Problems exist at all governmental levels, including federal and state agencies. In an effort to get areawide planning and local construction underway, multiple use was not pursued at first. As interest in multiple use mounted, the lack of applicable regulations and program guidance further slowed the implementation. Coordinating the many parties involved in multiple use activities was also a hinderance.

In new EPA grants for water quality planning the analysis of multiple use is now *mandatory*. Spurred on by more explicit legislation, federal funding, and the need to stretch community resources, multiple use applications are spreading. Most involve recreational and open space uses, but other activities such as land reclamation and agricultural production are being given increased attention.

At the local scene the misconception lingers that modern wastewater treatment plants are dirty and smelly. Regardless of cost effectiveness and other advantages, people don't want to be around such facilities, much less use them for recreation or other functions. Many persons resist the construction of wastewater treatment plants, and only grudgingly give support because of health and safety reasons. In such a climate, multiple uses are considered unnecessary, regardless of their cost effectiveness. Thorny issues such as liability and responsibility for operation, management, and policing of the facilities add to the concern. Inflexible and unimaginative facility designs also exclude multiple use opportunities.



Bike and Hike Trail on Sewer Right of Way

Multiple Use Opportunities

Numerous opportunities exist for the multiple use of water and wastewater facilities. Rights of way, and treatment plant grounds and buildings offer options for multiple use.

Rights of Way

Sewer rights of way and streamside easements are ideally suited for many recreational and resource activities. In addition to providing parks, these routes may link neighborhoods, playgrounds, schools, natural areas, and commercial centers through trail and open space networks. They often link a wastewater treatment plant and the community, contributing to awareness about the treatment facilities. Rights of way accommodate sports such as hiking, jogging, bike riding, horseback riding, snowshoeing, and cross-country skiing. These uses bring year-round recreational opportunities into populated areas where they are most needed, and an awareness and appreciation for clean water.

Sewer easements parallel to water bodies create other multiple use opportunities. Rights of way provide utility corridors for future water mains, gas lines and power lines. They facilitate maintenance through easy access along parallel roads. They afford access to the water's edge for fishing, boat launching, and swimming. As buffer strips they protect water quality and wildlife habitats from nonpoint source pollutants such as sediment, chemical fertilizers, and urban litter. These strips, sometimes called greenways, absorb the impact of flood waters and reduce property damages. They protect shorelines from new sources of pollution and preserve scenic settings for public enjoyment. Linear greenways have indirect environmental benefits; for example, biking along them cuts down the air pollution and energy consumption of auto use.

Finally, the developmental planning aspects of rights of way are pertinent. These linear arrangements shape community growth and open space patterns. Successful rights of way projects exist around the country.

Maryland. Ten miles of bike trail at Hyattsville have been built along a sewer line by the Washington Suburban Sanitary Commission. The sewer crosses park lands. The bike trail was built as a part of normal restoration work. Savings were realized because the trail design was incorporated into the plan for the sewer system.

New York. A hike and bike path in the town of Niskayuna connects the wastewater treatment plant with other recreation areas and points of environmental and historic interest. A neighboring town used the same path to locate a sewer.

Drainage and Sewer Rights of Way

Multiple Use Opportunities

- Linear parks
- Connecting networks
- Hiking trails
- Jogging trails
- Horseback riding trails
- Bicycle paths
- Environmental education
- Skiing and snowshoeing areas
- Future utility corridors
- Buffer strips for water quality protection

Treatment Plant Grounds

Most sewage treatment plants are constructed adjacent to water bodies. These locations are potentially useful for water-based recreation. Such activities as fishing, swimming, water-oriented picnicking, and boating (access ramps) can be provided in conjunction with treatment facilities. Other options exist.

Opportunities for active and passive recreation are needed by most communities. Wastewater treatment facilities can supply both at considerable land and money savings. Active recreational opportunities include playgrounds, ballfields, game courts, skating rinks, fish ponds, and small-game hunting areas. Passive recreational developments include parks, open space areas, and community gardens. Fences and the treatment plant staff provide the permanence and security necessary for uses such as community gardens and playing fields. One facility even has a weather station and an observatory for a local astronomy club.

Treatment plants provide opportunities for outdoor education. The grounds may be used for instruction on subjects such as natural history and archaeology.

Grounds also are used for activities that are possibly unsuitable for other locations. For example, recycling centers may be set up at treatment plants.

New York. The Coney Island Water Pollution Control Plant in New York City under a lease arrangement with the King's County Boys Club has a football field and bleachers, a roller-skating rink, and a clubhouse. At three other treatment plants in New York City fishermen use sludge loading piers for saltwater fishing.

Treatment Plant Grounds

Multiple Use Opportunities

- Skating rinks
- Swimming areas
- Picnic sites
- Fishing piers
- Fish ponds
- Boat launches
- Small-game hunting lands
- Parks
- Playing courts and fields
- Parks
- Playing courts and fields
- Outdoor education
- Community gardens
- Open spaces

Treatment Plant Buildings

Existing and Abandoned Structures

One approach to multiple use employs abandoned or unused physical structures. Another features additional applications of the wastewater treatment buildings themselves.

Abandoned plants save money two ways. They avoid the cost of new construction and demolition of the old facilities. Most of these old facilities are located in waterfront areas near population centers in need of recreational opportunities. Fishing piers and ice-skating rinks are suited to these waterfront locations. Around the country abandoned plants serve many uses, including: playing courts, adventure playgrounds, wading pools, and buildings for meeting rooms, recreation centers, and restrooms.

Of course, buildings do not have to be old or abandoned to serve such functions. Existing plants have community meeting rooms, public restrooms, and dressing rooms. The computer systems of some plants process data for other community activities such as tax records.

Educational Programs

Educational rather than recreational applications are a principal multiple use. *This is especially true in many urban areas where wastewater treatment sites and rights of way have little recreational or open space potential.* Educational opportunities at wastewater treatment facilities include:

- Citizen education
- School courses
- Career development.

Citizens have a right to participate in water quality planning. This mandate of The Clean Water Act requires an informed public. As a physical facility, a treatment plant can help educate advisory groups and other citizens about at least one of the alternative forms of wastewater treatment. A plant can be used to retrace planning decisions. It also can be a meeting place for advisory groups. It can be a repository for public review documents.

Education that is applicable to the real world is increasingly important. Wastewater treatment plants offer unique opportunities to observe relationships among treatment processes. Issues concerning environmental quality such as the costs of pollution control are more understandable in a treatment plant setting. Subjects such as biology, chemistry, and environmental issues are easily taught here.

Visits by students and other citizens to treatment plants increase the accountability of plant operations. They can actually improve plant efficiency and maintenance. Plant visits also help develop community support, and may lead to larger operations budgets. These facilities can provide an impetus for changed habits on water use such as water conservation.

The plants that have such programs have various arrangements for tour guides. These options include the use of volunteers, certified trainers, and operations staff with flexible work hours. Many facilities already conduct tours, but on an ad hoc basis. Neither the facilities are designed for, nor the staff are trained for these activities. Both the educational potential and plant operations suffer as a result.

Access to wastewater treatment plants enables students to view firsthand the possible career opportunities in water quality control. Educational benefits also are realized by treatment plant staff or agency officials. Educational programs can train staff or upgrade the skills of treatment plant operators.

Ohio. The children of Miamisburg today enjoy recreational facilities created from an abandoned plant at tremendous cost savings. An adventure playground was developed around a dismantled digester tank. Other equipment became a splash pool and a roller-skating area. Sludge beds were filled in and paved for basketball, volleyball, hockey, and tennis. An administrative building was converted into game rooms and restrooms.

Treatment Plant Buildings and Structures

Multiple Use Opportunities

- Environmental education
- Observation decks
- Astronomy observatories
- Weather stations
- Play areas
- Meeting rooms
- Dressing rooms
- Public restrooms
- Data processing centers

Cultural and Natural Resources

Multiple use opportunities are usually evaluated in terms of the main wastewater system components: treatment plant sites, buildings, and sewer rights of way. Other opportunities of a resource character exist. They include both cultural and natural resources such as agricultural, aquacultural, and energy products.

Archaeological and historical artifacts and information are turned up in planning and constructing wastewater treatment facilities. These resources can be displayed in visitor areas of a plant. Historical markers can be placed along a right of way. Such efforts add educational value to a facility. In certain circumstances, barge canals, towpaths, or water mills can be preserved by sharing site acquisition costs with water clean up funds. Similarly, treatment plants also afford protection for sensitive environmental areas such as wetlands, forests, and historical sites.

Effluent and sludge nutrients have been used by farmers for decades. However, only in recent years has research tested the cost effectiveness and safety of the approach. Although caution must still be exercised with metal-containing sludges, vast potential exists. At plants around the country the nutrients are used in growing crops and fish, and in reclaiming soils depleted of their organic (carbon-containing) matter and nutrients. Park lands are similarly restored.

Energy production is another option for wastewater treatment facilities. Methane is a by-product of the breakdown of organic matter by bacteria in the absence of oxygen (anaerobic digestion). This gas is a fuel that can be used in the plants themselves, or it can be sold to residential and commercial users. Potential exists for additional methane production from the further breakdown of organic sludges. Some plants are also exploring the possibility of generating electricity by small hydropower turbines on interceptor pipes, or co-generation by sludge incineration.

Other opportunities most certainly exist. They will continue to be discovered and developed. The first step is a willingness to explore them.

Georgia. Surveys for a right of way along the Chattahooche River near Atlanta uncovered important archeological sites. 5,000 year-old Indian rock shelter villages are the subject of continuing exploration by archeologists and high school students.

Texas. The Walnut Creek Treatment Plant in Austin features multiple uses in an environmentally-sensitive neighborhood. The facility stops odors with activated carbon filters, and controls noise with earth berms and buffer walls. Meeting rooms, a fishing lake, and picnic areas are available for public use.

Cultural and Natural Resources

Multiple Use Opportunities

- Cultural and historical preservation
- Agricultural production
- Aquacultural production
- Land reclamation
- Methane production
- Small-flow hydropower generation or co-generation
- Greenways and wetlands

Planning Strategy

Many agencies participate in planning multiple use activities, especially recreation. The EPA, the Heritage Conservation and Recreation Service (HCRS), the Department of Housing and Urban Development, and other agencies have multiple use interests. At the federal level two EPA programs in wastewater management are of particular importance—208 areawide planning, and the 201 construction grants program.

Water quality management 208 plans have a broad, regional scope. They provide the umbrella under which individual facility plans are formed. These plans can coordinate multiple use programs among the treatment sites in an area. Thus, rather than every facility having particular educational or recreational programs, the 208 plan may systematically call for services at particular plants according to transportation, location, facility uniqueness, and other considerations. These plans can coordinate water and recreation investments to save on acquisition and development costs. Finally, 208 plans also involve other factors pertinent to multiple use opportunities such as strategic open space areas, nonpoint sources of pollution, wetlands, and greenways.

The 201 program provides for the planning (Step 1), design (Step 2), and construction (Step 3) of new or expanded wastewater treatment facilities. A preapplication stage precedes the formal planning sequence. Multiple use inputs are especially significant in the preapplication and planning stages. Multiple use efforts are important at several points:

- Selection of consultant
- Preapplication conference
- Fact sheet
- Information meetings
- Preparation of facility plan and public hearing
- Reviews of project plans and specifications.

The advisory group may not be involved at the beginning of the process. However, the selection of the consultants and the sewage commissioners is very important.

Persons with an interest in multiple use are more likely to incorporate such considerations into the plans. The preapplication conference sets the tone for the planning effort. It is crucial at this point to show local interest, and to start the grantee and consultants thinking about multiple use options.

Multiple use inputs are appropriate throughout the planning stage. Multiple use can be an agenda item at meetings. Advisory group subcommittees can be formed to study options and local interests such as the Little League that can be served. Group members and the public can take tours of existing plants to see multiple use in operation. Frequent news releases about multiple use can interest diverse publics in wastewater treatment facilities, and establish on-going support. However, this does not mean that multiple use should be used to sell treatment plants. Projects first and foremost must be environmentally sound, cost effective, and technically feasible.

All planning begins with needs assessment. In addition to wastewater management needs, recreation, open space, and other needs suitable for multiple use are identified. Recreationists and other persons with multiple use interests should be invited to provide input on a regular basis. These persons should be advisory group members on full-scale public participation projects. The grantee is required to help identify these parties.

A fact sheet, including cost information, on a project is released to the public early in the planning process. Multiple use can be included in this document to both solicit ideas and drum up support.

The Step 1 facilities planning process requires at least one public meeting, as well as a public hearing, on the proposed facilities plan. Informational meetings, especially in assessing community needs, are good places for discussions about multiple use. They present an opportunity to make the multiple use benefits known to the public, and to hold consultants accountable for multiple use analyses. Since a responsiveness summary of all meetings and hearings figure significantly in EPA and state assessments, voicing concern for multiple use at these points are important. The review of final plans and specifications is an additional opportunity for insuring that multiple use is actively considered.

Even after the facility is under construction it is not too late to incorporate multiple uses. Although these options are limited, certain uses are feasible; for example, grading lands may accommodate recreational uses.

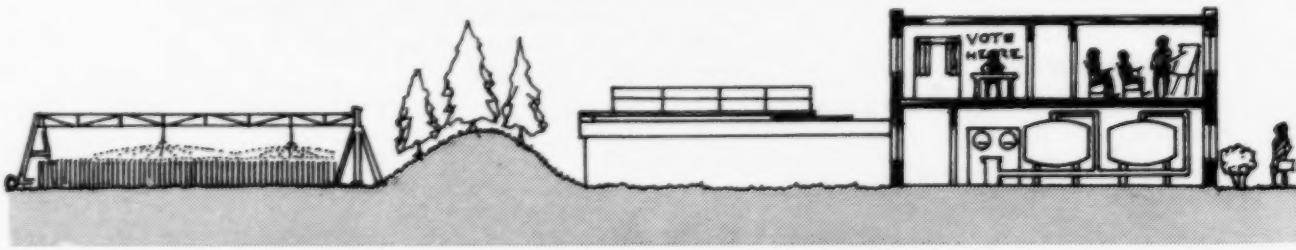
A Word of Caution

Some persons think that multiple use should not be involved throughout the planning process. Here, multiple use comes into consideration only after the most cost-effective alternative is chosen.

This approach is *wrong*. Multiple use, or any other planning element, should not be tacked on the end of the process. Such an action invites the design of inflexible, underused facilities. A portion of the planning funds is available for dealing with community objectives other than wastewater treatment. In the long run, nearly all of these objectives, including recreation, serve in the clean up of water.

Factors of Open Space and Recreation Planning

- Public open space, recreation, flood control, and nonpoint source pollution control
- Environmental education
- Proximity to existing facilities
- Surrounding land uses
- Environmental and aesthetic features
- Compatibility of area with proposed uses
- Proximity to public access, public transportation, access barriers, and parking spaces
- Need for fencing, lighting, and play area surfacing
- Maintenance and security considerations
- Facilities design and site layout
- Topography, soils, drainage, and flooding characteristics
- Wind and sun orientations
- Water characteristics



Spray Irrigation Buffer and Screen Meeting Room and Polling Place

Challenges and Needs

Multiple use programs are not always easy to implement. Some considerations are given in Green Spaces and People Places, a manual prepared for EPA Region II. The following discussion is adapted from this document.

Multiple Use Coordination

The success stories to date are mainly the result of the efforts of a single person or organization to bring together numerous agencies, volunteer groups, and schools. At various places, these persons have been a plant operator, the director of a sewer district, the head of a local environmental commission, an official within the EPA or HCRS, or some other party. In each case, these people have been hampered by lacks of funding, legal authority, or clear procedures to follow. The Clean Water Act of 1977 places an enforceable responsibility on the grantee, the local wastewater management agency, to play the coordinating role, or to subcontract it. Multiple use activities are best done when specific parties are given responsibilities, and adequate resources are delegated. Advisory groups can suggest such matters to the grantee.

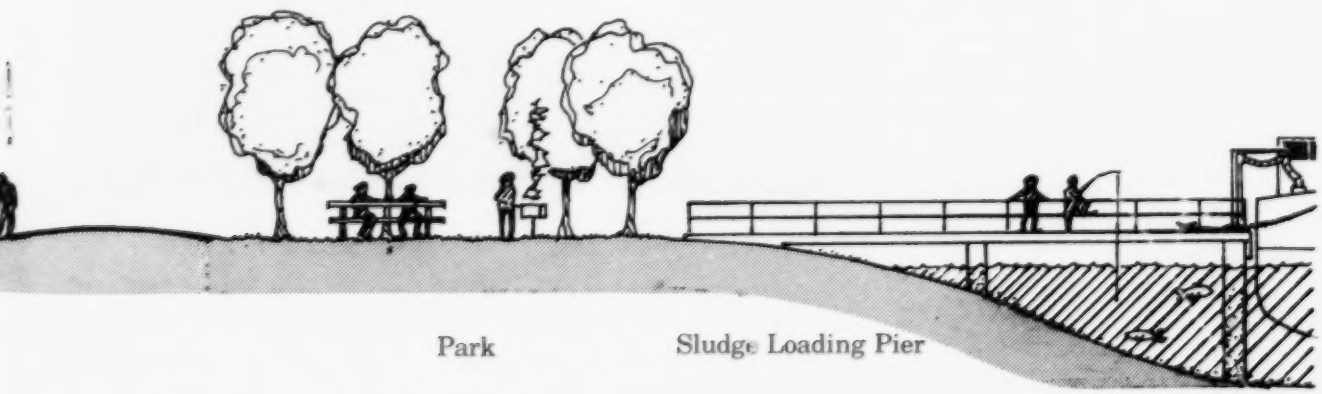
Property Acquisitions

Public access to land, or incentives to retain land for open space, can be achieved through various means. The most common ways are purchase or donation, lease, and easement. Their application to multiple use may run into snags.

Single-function agencies such as sewer authorities may be restricted by state law from acquiring lands for purposes other than those for which the agency is created. However, some legal opinions maintain that no conflict exists if the primary function of an acquisition serves the agency, and the secondary one does not interfere with the primary use. For example, a maintenance road serving a sewer right of way can double as a paved bicycle path without diminishing its primary purpose. Instead of land purchases, agencies can receive property donations in exchange for tax breaks. Other options include leases and easements.

Easements granted by private property owners to sewer authorities for rights of way may pose other challenges. The easements, obtained at considerably lower cost than outright purchase, often carry conditions such as limitations on public access. If a multiple use plan is developed long after easement agreements are sealed, renegotiating the easements can prove troublesome and increase costs. Early planning and simultaneous actions can reduce this problem.

The objective is not to let a few properties stop a project. The management agency has to maintain flexibility, and route around trouble spots. For example, for a bike trail in New Jersey a temporary land bank was formed until purchase funds were available.



The advisory group can make the grantee aware of these concerns. It also can help develop community support for property acquisitions.

Technical Assistance

At present, EPA policy does not permit funding for detailed design in multiple use projects. However, some features are eligible for preliminary design if they are ancillary to the treatment system itself, and they do not reduce the cost-effectiveness of the treatment facility. Design also is reimbursable if the HCRS funds outdoor recreation or open space options.

Other design alternatives exist.

The advisory group can assure that these matters receive the attention they deserve. The most perfectly designed system will not work if it is not maintained!

However, care must be taken so that these designs are not considered unnecessary frills that can be eliminated through subsequent value engineering studies. Often neighboring architectural schools can make designs as class projects. Volunteer and in-kind services and donations also are possibilities. The trick is imagination and cooperation. The Miamisburg, Ohio, renovation of an abandoned plant was designed entirely by city parks personnel.

Operation and Management Responsibility

A universal concern centers around the responsibility for operating and managing multiple use programs. In the case of educational activities at a treatment site, the sewerage authority can usually maintain the physical features. However, the participating educational or environmental institutions must undertake programs of organizing tours and developing educational resources. Tour leaders can be retired plant operators, or persons who undergo trainee workshops.

In the case of recreational development, some plants maintain grounds and picnic tables as part of normal maintenance. Where intensive public use of boat ramps, fishing piers, playing fields, and bike and hike trails occurs, other arrangements are necessary. Recreation groups must provide for maintenance, supervision, and security. These responsibilities may be spelled out in cooperative or lease agreements.

Sometimes volunteers, clubs, or recreation associations can perform these services. At a sludge pier used for fishing in New York City, a group of local fishermen reduces vandalism by monitoring the area and educating other users on expected standards of behavior. Elks Clubs and boy scouts provide and maintain picnic tables at sites around the country. In portions of New Jersey and New York, trails along rights of way that meet the standards of hiking associations may qualify for maintenance services.

Advisory groups can encourage the grantee to explore various management arrangements.

Where the Bucks Start

Paying for multiple use facilities is complex because of the wide range of use options and funding sources. Potential contributors are both private and public. Most funds are restricted to particular multiple use activities.

Private Sector Assistance

Potential sources in the private sector include:

- Businesses and corporations
- Service groups
- Foundations.

Donations to public recreation are attractive to business persons because of the tax advantages and the boost to business images. Gifts may also be a way for companies to mitigate public relations problems. Businesses may give materials, money, or the services of administrators and technicians.

Service groups and vocational schools are especially helpful in providing manpower for construction, maintenance, and publicity. Since these organizations reach the heart of the community, they also are important in establishing a public support base.

Federal Funding Alternatives

Federal agencies provide technical assistance and full or partial grants for multiple use. The EPA, the Department of Interior, and other organizations are funding sources, but funding levels vary from year to year. Many federal funds are channelled through state agencies. States often have programs which correspond to federal programs, especially those that offer matching grants.

As compared to private sources, the federal grants usually have more guidelines and regulations. Still, there is much potential for the use of federal funds by state and local organizations. Funding possibilities are not always obvious. For example, Tow Path Trail in New Jersey may qualify for historic preservation funds.

Environmental Protection Agency

Although the EPA does not provide design or construction funds solely for multiple use projects, these funds can serve as seed money for multiple use considerations. The EPA provides multiple use planning funds for all new wastewater treatment projects as a part of facilities planning. However, no funds are awarded for design or construction where the multiple use features are not an integral part of the facility. Facilities can serve the dual functions of multiple use and wastewater treatment. For example, an educational center for the public can be housed in the same room used for staff training. Walkway railings can be considered a necessary feature for plant personnel as well as the visiting public. Right-of-way

Sludge loading pier used for fishing in New York City.

Sources of Funding

Use	*Funding Legislation or Program*
Outdoor recreation, open space, fish and wildlife habitats	Heritage Conservation and Recreation Service Fish and Wildlife Service Soil Conservation Service
Historic and cultural preservation	National Historic Preservation Act of 1966 Community Education, Recreation, and Cultural Services Act
Bikeways and walkways	Federal-Aid Highway Act of 1973 Comprehensive Employment and Training Act
Environmental education	Environmental Education Act of 1972 Community Education, Recreation, and Cultural Services Act Sea Grant Program
General activities	Housing and Community Development Act of 1974 Comprehensive Employment and Training Act Farmers Home Administration loans Environmental Protection Agency

trails can serve both pedestrians and sewer maintenance personnel.

Department of Interior

The Department of Interior has several pertinent programs. The Heritage Conservation and Recreation Service administers the Land and Water Conservation Fund (LWCF), which provides matching monies for the planning, acquisition, and development of outdoor recreation facilities. The Fish and Wildlife Service provides funds for fish conservation programs, and technical services on multiple use projects. The Historic Preservation Fund enables matching grants for historical preservation surveys and plans, and the acquisition of endangered historic properties.

Other Federal Opportunities

Numerous opportunities for multiple use funding exist elsewhere. The Soil Conservation Service provides both grants and technical assistance for developing land and water resources. Environmental education projects are funded by the Department of Education under the Environmental Education Act. Funding for bikeways and pedestrian facilities is available from the Department of Transportation under the Federal-Aid Highway Act of 1973. Even Comprehensive Employment and Training Act (CETA) funds can be used for activities such as constructing trails and paving bikeways. These are only a few of the opportunities.

Getting On with It

Advisory groups can play significant roles in incorporating multiple use in areawide or facility planning. In *assisting* the grantees, advisory groups should:

- Become familiar with the multiple use needs of the community. An inventory of the local situation, and aspects of educational, recreational, open space, and resource opportunities should be taken into account. An advisory group subcommittee can focus upon these matters.

- Encourage the grantee to integrate multiple use activities with other plans in the area, including the 208 water quality plan, the HUD 701 open space plans, and the Statewide Comprehensive Outdoor Recreation Plan (SCORP).

- Make sure that local needs and viewpoints are part of SCORP and the state's evaluation for Heritage Conservation and Recreation Service funding. Overlapping advisory groups can help in this effort.

- Help coordinate (1) multiple use implementation, such as negotiating the sewer rights of way and trail easements at the same time; (2) funding sources, such as submitting a Land and Water Conservation Fund application at the same time the project is placed on the state priority list for EPA funding. Advisory groups are especially sensitive to local sources of assistance.

- Insure that multiple use aspects are introduced at appropriate places throughout the planning process. The facility preapplication conference, plan preparation, fact sheet, public hearing, and project reviews all are appropriate points. Multiple use can be the topic of public meetings, newspapers, and mailings. Advisory groups can form subcommittees for studying multiple use. Written statements can be entered into the record of public hearings. Other options exist.

- Help arrange for technical assistance from various sources, including governmental agencies, private organizations, and the public. Advisory groups can be particularly effective in procuring assistance through interest groups, professional organizations, and personal contacts.

- Foster cooperation and communicate information among water-education-recreation constituencies about multiple use opportunities and the programs. Advisory group meetings can be a place for receiving planning inputs such as the ideas of recreation planners.

Multiple use, thus, offers a lot more than is first apparent. It provides new resources such as recreation. It saves resources such as the operation and maintenance costs of treatment plants. It is no significant drain on wastewater facility funds. In fact, it fits into the long-term goals of the Clean Water Act to make lasting solutions to water pollution. Multiple use also is mutually supportive with public participation. While helping the public relate better to facility planning, it helps build public interest. Multiple use is not a minor concern to be tacked on the end of the process. It is in the mainstream of areawide and facility planning.

Case Study

Multiple Uses for the New and the Old

Naperville, Illinois

Adapted from Pfortner, Raymond, "Treatment Plants Can be People Places." Clearwaters. March 1978. pp. 6-8.

The City of Naperville, a suburb of Chicago, opened a regional wastewater treatment facility in the summer of 1977. Because of thoughtful planning from the outset, the facility has literally become the center of activity for the city's residents.

Buffer lands around the site are leased to the Naperville Park District for recreational use. The site offers community garden plots used by 300 families each season, and a popular canoe launch onto the DuPage River. A Future Farmers of America experimental farm tract is located at the site where the usefulness of sludge for growing crops is studied. The facility also houses an official weather station and a local astronomy club's observatory.

Some of the best activities at Naperville are inside the plant, and are educational rather than recreational. The treatment plant is designed and constructed for tours by school children and the general public. The plant features a raised observation deck for an overview of the facility. It has a multi-purpose room for staff training, group orientations, and community meetings. The plant also is an official polling place to encourage public use.

In constructing this facility four small treatment plants were abandoned, but some old facilities were recycled. An old storage tank was cleaned and relocated on the new site, where it provides water for the community gardens. One of the administration buildings was gutted and made into the city's data processing center at considerable savings over the cost of new construction. Old aeration tanks were sand-blasted, and are now used for water supply storage. A large trickling filter and control buildings at the old Naperville sites still have recreational potential.

All these activities are conducted at the Naperville plant without the loss of operational efficiency. The 10 mgd plant puts out an extremely high quality effluent, in the 3-4 mg/L BOD and suspended solids range.

The Director of the Naperville Water and Wastewater Utility Department attributes the success of the facility to cooperation and professionalism of all of the city departments. He says the design engineers who came up with the plant's land use plan were instrumental in the success of the project.

Observation deck.

Polling place.

Fulfilling Recreation and Open Space Requirements in Water Quality Management Planning. Nos. 1 and 2. Washington, DC: Heritage Conservation and Recreation Service, U.S. Department of the Interior. 1979. 8 and 11 pp.

These booklets deal only with the range of considerations involved in recreational and open space aspects of multiple use planning. In a question and answer format, Section 201 of the 1977 Clean Water Act is defined, funding and sponsors are discussed, and multiple use opportunities are outlined. Aspects of evaluating recreation possibilities for facility planning, design, and construction are covered. Both booklets have charts of funding assistance. The addresses and telephone numbers of agency offices also are given. Copies of the booklets can be procured from the Heritage Conservation and Recreation Service, 440 G Street, NW, Washington, DC 20243.

Green Spaces and People Places: A Manual on the Multiple Uses of Wastewater Treatment Plants. New York, NY: U.S. Environmental Protection Agency, Region II, 1978. 38 pp.

This manual is an excellent document that mainly covers the rationale for multiple use, the successful experiences of plants that have done it, the needs and problems that have been experienced, available funding, and how to go about multiple use planning. Other sections list contacts, and give information sources. Appendices summarize relevant portions of the Federal Water Pollution Control Act of 1972, and provide a sample lease agreement. The manual is strongly oriented to the situations and needs in EPA Region II. The manual is available from the EPA Region II Office of Public Affairs, 26 Federal Plaza, New York, NY 10007.

Public Benefits from Water Clean-up. Washington, DC: Office of Land Use Coordination, U.S. Environmental Protection Agency, 1978. 41 pp.

This booklet was written by the National Recreation and Park Association for the EPA. It abounds with a mixture of success stories, policy discussions, and the recreational planning criteria for sewer rights of way, treatment plant and lift station sites, and environmental education programs. It also covers funding sources, and implementation aspects. An appendix features a detailed discussion of legal considerations. It has ample planning illustrations and pictures. The booklet has not undergone widespread distribution. Photocopies are available at cost from the Office of Land Use Coordination, U.S. Environmental Protection Agency, 401 "M" Street, S.W., Washington DC 20460.

Glossary

Aeration Tank—tank in which oxygen is circulated through wastewater as an aid in purification.

Aeroclarifier—settling tank utilizing the circulation of oxygen through the wastewater to aid in purification and sedimentation.

Anaerobic Digestion—the breakdown of organic material by bacteria without the presence of oxygen.

Aquifer—underground bed or layer of earth, gravel, or porous stone which serves as a reservoir for groundwater.

Biochemical Oxygen Demand (BOD)—the amount of dissolved oxygen required in the biological process of breaking down organic matter in water.

Buffer Strip—area of land which acts as a health and safety barrier or as protection from adverse environmental effects such as pollution.

Cost-Effectiveness Analysis—determination of whether a project or technique is worth funding; involves both monetary and nonmonetary factors.

Easement—a right of way granting the use of land for a certain period of time.

Effluent—treated or untreated waste material discharged into the environment.

Floodplain—a nearly flat plain along the course of a stream that is naturally subject to flooding at high water.

Greenway—another name for "buffer zone."

Land Reclamation—the reclaiming and reuse of wasteland, swamps, marshes, and other unused or wasted land for useful purposes, such as cultivation or recreation.

Linear Park—a park which is located along a route, such as a sewer right of way or a streamside easement.

Methane—by-product of the breakdown of organic matter in aerobic digestion.

Nonpoint Source Pollution—a contributing factor to water pollution that can't be traced to a specific spot, such as agricultural fertilizer runoff.

Percolation—downward flow or filtering of water through pores or spaces in rock or soil.

Sludge—concentrated solids removed from sewage during wastewater treatment.

Sludge Digester—heated tank where wastewater solids can decompose naturally and the odors can be controlled.

Suspended Solids—small particles of solid pollutants in sewage that cause cloudiness and require special treatment to remove.

Trickling Filter—tank in which primary settling tank effluent is passed through filter media coated with bacteria which consume organic wastes in the wastewater.

201 (Facilities) Planning—deals with the planning, designing, and construction of local wastewater treatment facilities.

208 (Water Quality Management) Planning—water quality planning with a state and regional scope.

Water Recharge—adding water to an aquifer either by spreading on the ground surface or by direct injection through wells.

Watershed—the land area that drains into the surface waters.

Wetlands—low-lying lands which frequently have standing water on them, such as swamps, marshes, and meadows.

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Working for Clean Water is a program designed to help advisory groups improve decision making in water quality planning. It aims at helping people focus on essential issues and questions by providing trained instructors and materials suitable for persons with non-technical backgrounds. These materials include a *citizen handbook* on important principles and considerations about topics in water quality planning, an *audiovisual presentation*, and an *instructor guide* for elaborating points, providing additional information, and engaging in problem-solving exercises.

This program consists of 18 informational units on various aspects of water quality planning:

- Role of Advisory Groups
- Public Participation
- Nonpoint Source Pollution: Agriculture, Forestry, and Mining
- Urban Stormwater Runoff
- Groundwater Contamination
- Facility Planning in the Construction Grants Program
- Municipal Wastewater Processes: Overview
- Municipal Wastewater Processes: Details
- Small Systems
- Innovative and Alternative Technologies
- Industrial Pretreatment
- Land Treatment
- Water Conservation and Reuse
- Multiple Use
- Environmental Assessment
- Cost-Effectiveness Analysis
- Wastewater Facilities Operation and Management
- Financial Management

The units are not designed to make technical experts out of citizens and local officials. Each unit contains essential facts, key questions, advice on how to deal with the issues, and clearly-written technical backgrounds. In short, each unit provides the information that citizen advisors need to better fulfill their role.

This program is available through public participation coordinators at the regional offices of the United States Environmental Protection Agency. □

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This project is dedicated to the memory of Susan A. Cole.